

App. No. 09/879,452
Amdt. Dated May 10, 2004
Reply to Office action of February 9, 2004
Attorney Docket No. P12674-US1
EUS/J/P/04-3108

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A wireless network providing global paging of mobile stations service by the network comprising:

a pool of mobile switching centers (MSC), for servicing mobile stations within a specified service area of said wireless network; and

a radio configuration database (RCDB) for defining a plurality of global paging areas within said specified service, the global paging areas having a hierarchical structure comprising:

base station controller/radio network controllers (BSC/RNC) each of which manage

a plurality of location areas in which each location area in turn manages associated cells, and the pool of MSCs can communicate with each of the BSC/RNCs in each of the plurality of global paging areas.

~~wherein said radio configuration database is accessible by any mobile switching center in said pool to allow paging of a mobile station roaming within said specified service area according to one or more global paging areas.~~

2. (Currently Amended) The wireless network of claim 1 wherein said radio configuration database for defining a plurality of global paging areas further comprises

means for geographically grouping the cells in each global paging area is structured in a hierarchy including cells, location[[s]] areas, and base station controller or radio network controller for each global paging area in the specified service area.

3. (Currently Amended) The wireless network of claim 1 further comprising means for paging a mobile station that is registered in a cell with the network, wherein said radio configuration database includes a first field for storing the cell identity of cells within said specified service area.

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4. (Currently Amended) The wireless network of claim 3, further comprising

means for instructing the MSC that handled the registration of the mobile station to attempt to page the mobile station in the location area containing the cell and if the mobile does not respond, the MSC then attempts a page in the global paging area to which the cell belongs.

~~wherein said radio configuration database comprises a second field for storing the identity of location areas within said specified service area.~~

5. (Currently Amended) The wireless network of claim ~~[[4]]~~ 1, wherein said radio configuration database further includes:

a first field for storing the cell identity of cells within said specified service area;

a second field for storing the identity of location areas within said specified service area

a third field for storing the identity of base station controllers or radio network controllers within said specified service area and

a fourth field for identifying the global paging area.

6. (Original) The wireless network of claim 5 wherein any mobile switching center in said pool is capable of paging a mobile station within said specified service area by accessing said radio configuration database and determining the cell identity, location area identity, and base station controller/radio network controller identity of a mobile station roaming within said specified service area.

7. (Currently Amended) A method of paging a mobile station within a wireless network comprising a pool of mobile switching centers for servicing mobile stations within a specified service area, the method comprising the steps of:

transmitting a paging request for a mobile station to the wireless network;

the mobile switching center first paging the mobile station in a first cell in which the mobile station is registered wherein the first cell is associated with a location area in

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a global paging area within the specified service area, wherein the global paging area is defined in a radio configuration database as a hierarchical structure comprising base station controller/radio network controllers (BSC/RNC) that manage a plurality of associated location areas that in turn manage cells associated with the location areas
~~paging the mobile station;~~

attempting a page in the global paging area to which the cell belongs if no answer is received in response to the first page.

~~responding to the paging request is an answer is received from the mobile station; and~~

~~globally paging the mobile station if no answer is received from the mobile station.~~

8. (Currently Amended) The method of claim 7 wherein said global paging area paging step further comprises the step of accessing ~~[[a]]~~ the radio configuration database to obtain the most recent location information for the mobile station.

9. (Currently Amended) The method of claim 8 further comprising the steps of:

finding the cell ~~location area~~ in which the MS was most recently present;
determining ~~which~~ the location area to which the cell ~~mobile switching center~~ belongs;

determining the global paging area to which said location area belongs; and
paging the mobile station within said global paging area.

10. (Currently Amended) The method of claim 9 wherein said paging step is ~~[[if]]~~ performed by paging the mobile station in all location areas within said global paging area.

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11. (Currently Amended) The method of claim 7 wherein said global paging step further comprises the steps of:

[[of]] accessing a radio configuration database containing the identity of all cells, location areas, base station controllers/radio network controllers, and global paging areas of the service area of said wireless network; and

determining the cell, location area, base station controller/radio network controller, and global paging area in which said mobile station was last known to be roaming.

12. (Original) The method of claim 11 further comprising the step of transmitting a paging request in said last known global paging area.

13.-22. (Canceled)